

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1 2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 07/09/2009	2. CONTRACT NO. (If any) HSHQDC-09-D-00003	6. SHIP TO:	
3. ORDER NO. HSHQDC-09-J-00249		4. REQUISITION/REFERENCE NO. RSSA-09-00030	
5. ISSUING OFFICE (Address correspondence to) U.S. Dept. of Homeland Security Office of Procurement Operations S&T Acquisition Branch 245 Murray Lane, SW Building 410 Washington DC 20528		a. NAME OF CONSIGNEE DHS S&T	

b. STREET ADDRESS 245 Murray Lane Building 410		c. CITY Washington	d. STATE DC	e. ZIP CODE 20528
--	--	-----------------------	----------------	----------------------

7. TO:	f. SHIP VIA
a. NAME OF CONTRACTOR ANALYTIC SERVICES INC	8. TYPE OF ORDER

b. COMPANY NAME	<input type="checkbox"/> a. PURCHASE	<input checked="" type="checkbox"/> b. DELIVERY
c. STREET ADDRESS 2900 SOUTH QUINCY STREET SUITE 800	REFERENCE YOUR:	
d. CITY ARLINGTON	e. STATE VA	f. ZIP CODE 222062233
9. ACCOUNTING AND APPROPRIATION DATA See Schedule		10. REQUISITIONING OFFICE

11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT Destination
<input type="checkbox"/> a. SMALL	<input type="checkbox"/> b. OTHER THAN SMALL	<input type="checkbox"/> c. DISADVANTAGED	<input type="checkbox"/> g. SERVICE-DISABLED VETERAN-OWNED	
<input type="checkbox"/> d. WOMEN-OWNED	<input type="checkbox"/> e. HUBZone	<input type="checkbox"/> f. EMERGING SMALL BUSINESS		

13. PLACE OF		14. GOVERNMENT B/L NO	15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 365 Days After Award	16. DISCOUNT TERMS Net 30
a. INSPECTION Destination	b. ACCEPTANCE Destination			

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 077815736+0000 Division: OAD - HSSAI PPA: N/A Thrust: N/A Program: N/A Project: HSSAI Task 09-17: NPPD Risk Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT	20. INVOICE NO		17(h) TOTAL (Cont pages)
	21. MAIL INVOICE TO:				
	a. NAME	DHS ICE		\$490,728.00	17(i) GRAND TOTAL
	b. STREET ADDRESS (or P.O. Box)	Burlington Finance Center PO BOX 1000 Attn: S&T Division			
c. CITY	d. STATE	e. ZIP CODE	\$490,728.00		
	Williston	VT	05495-1000		

22. UNITED STATES OF AMERICA BY (Signature) 	23. NAME (Typed) Albert Dainton TITLE CONTRACTING/ORDERING OFFICER
---	--

**ORDER F SUPPLIES OR SERVICES
SCHEDULE - CONTINUATION**

PAGE NO

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers

DATE OF ORDER 07/09/2009	CONTRACT NO. HSHQDC-09-D-00003	ORDER NO. HSHQDC-09-J-00249
-----------------------------	-----------------------------------	--------------------------------

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>Assessment Process for Informed Decision-Making (RAPID) Performer: HSSAI Appropriation Year: FY09 (REI Funds) Budget Authority: Annual Funds</p> <p>AIC: 70-08-1513 APPS: 7090810</p> <p>Description: The purpose of this task order is to secure funding for the HSSAI Task 09-17: NPPD Risk Assessment Process for Informed Decision-Making (RAPID). Admin Office: U.S. Dept. of Homeland Security Office of Procurement Operations S&T Acquisition Branch 245 Murray Lane, SW Building 410 Washington DC 20528</p> <p>Accounting Info: REI9122-000-RA-70-00-00-000-01-00-0000-00-00-00-00-GE-OE-25-37-000000 Period of Performance: 07/13/2009 to 07/12/2010</p> <p>HSSAI Task 09-17: NPPD Risk Assessment Process for Informed Decision-Making (RAPID)</p> <p>CLIN 0001</p> <p>Estimated Cost: \$478,759 Fixed Fee: \$11,969</p> <p>Total CPFF: \$490,728</p> <p>The total amount of award: \$490,728.00. The obligation for this award is shown in box 17(i).</p>				490,728.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$490,728.00

TASK EXECUTION PLAN

TEP No.: 09-17

(Analytic)

Division Director: George Thompson **Division Manager:** Mark Hanson

Division: Risk Management Division (RMD)

Task Title: Risk Assessment Process for Informed Decision-Making (RAPID)
RAPID Deep Dive

Date: 18 May 2009

Version: 2

DHS Sponsor:

Tina Gabbricelli, 202-447-3358, tina.gabbricelli@dhs.gov, Director, Office of Risk Management and Assessment (RMA), NPPD, Department of Homeland Security, 3801 Nebraska Ave, NW, Washington DC 20528

HSSAI Task Lead:

Wallace Langbehn, 703-416-3232, skip.langbehn@hssi.dhs.gov, Homeland Security Institute, 2900 S Quincy St, #800, Arlington, VA 22206

Additional Stakeholders:

John Whitley, 202-447-5141, john.whitley@dhs.gov, Director, DHS/Program Analysis and Evaluation (PA&E), MGMT/CFO, Department of Homeland Security, 7th & D St. SW, Washington, DC 20528

Alan Cohn, 202-282-9383, alan.cohn@dhs.gov, Deputy Assistant Secretary for Policy, Strategic Plans, Policy Directorate, Department of Homeland Security, 3801 Nebraska Ave, NW, Washington DC 20528

1. Purpose, Requirements and Objectives:

DHS's Office of Risk Management and Assessment (RMA) is the Sponsor for this Task. RMA's purpose is to look at risk from a Departmental perspective while working with each DHS component risk office to assess and evaluate risk. Over the past three years RMA, PA&E, Policy, and S&T have been working to create a strategic-level framework that can be used to assess risk and inform the DHS Planning, Programming, Budgeting, and Performance Evaluation/Execution (PPBE) cycle, which in turn provides the basis for the annual DHS Future Year Homeland Security Plan (FYHSP). One of RMA's initiatives, the Risk Assessment Process for Informed Decision-making (RAPID), is an essential part of RMA's plans.

RAPID is a pioneering effort that has followed a spiral development approach. A Proof of Concept was developed in 2006, and concepts and methodologies were refined in 2007. In 2008, RAPID executed a Prototype to test and demonstrate a solid and credible foundation for moving into the first phase of implementation. For 2009, RAPID will include a more in-depth assessment of chemical and biological terrorism scenarios. Accordingly, the primary purpose of this Task is to provide analytic

support for the 2009 Deep Dive efforts for RAPID. Major elements of the RAPID process will be applied, refined as needed, and used to generate results that support DIIS Policy and PA@E. Specifically, the aims of the Deep Dive are to apply the analytic steps and processes in the RAPID Prototype method to create results capable of informing the PPBE IPG.

2. Desired Impact of the RAPID Deep Dive:

As RAPID's methodology matures, it can help ensure that DHS integrated planning guidance, resource allocation plans, and investment decisions are guided in part by risk reduction. The RAPID Deep Dive will help mature RAPID by producing a product that, if further expanded and implemented in future years, can provide credible and usable information to assist DHS decision makers with such questions as:

- What are the greatest anticipated risks across the domestic chemical and biological terrorism areas of the homeland security mission space?
- Where are the best opportunities for DHS programs to reduce risk at reasonable cost for the domestic chemical and biological terrorism areas?
- What are the risks and trade-offs involved in adding or redistributing future DHS funding among programs relating to domestic chemical and biological terrorism?

3. Scope:

This Task consists of the following Sub-Tasks:

- Sub-Task (1): Define Deep Dive Scenarios. HSSAI will assist and provide analytic support to the process of building RAPID Scenarios based on the scenarios used in the BTRA and CTRA reports. The purpose of these Scenarios is to provide information needed to conduct risk analysis as required by the RAPID Risk Method. HSSAI will work with RMA to coordinate the Chemical and Biological scenarios with the components. Threat probability values and consequence estimates will also be derived from the BTRA and CTRA work, as applicable.
- Sub-Task (2): Define Incident Chains. Based on the scenarios defined in Sub-Task (1), HSSAI will develop the sequencing of scenario steps as "Incident Chains" that depict the principal pre-event activities, event initiation, and post-event activities.
- Sub-Task (3): Program Mapping. Based on the Deep Dive scenarios in Sub-Task (1) and their representation as Incident Chains in Sub-Task (2), HSSAI will assist and provide support in mapping DHS programs to the scenario activities represented in the Incident Chains. HSSAI will consider programs based on the 2011-2015 FYHSP program list provided by PA&E. HSSAI will characterize programs by their scenario roles, interprogram relationships, and dependencies and validate these characterizations with the DHS components.
- Sub-Task (4): Estimate DHS Program Risk Reduction Effectiveness. HSSAI will coordinate and support a process by which appropriate Component Program Experts will judge the effectiveness of each of their relevant programs to reduce risk.
- Sub-Task (5): Risk Modeling and Analysis. Based on the previous experience with the RAPID prototype, HSSAI will refine the RAPID model to include both operational and enabling programs and assess programs' risk reduction effectiveness and Return on Investment (ROI) within the context of the Deep Dive scenarios.

- Sub-Task (6 :) Provide Results to Influence Policy IPG Guidance. HSSAI will assist RMA in consolidating the RAPID Deep Dive results to generate information to support the FY11-15 IPG to be published in FY09. HSSAI will draw upon the RAPID Prototype work to analyze the results and to incorporate RAPID into the IPG decision-making process. Throughout this Sub-Task, HSSAI will work closely with the Sponsor to ensure that these representative inputs properly reflect the uncertainties and limitations inherent in the RAPID process.
- Sub-Task (7): Assist with FY11 RAP Guidance. HSSAI will coordinate and support the development of draft guidance to the Resource Allocation Plan. The guidance will provide the context and risk framework for component programs to present, discuss and defend their programmatic requests using the common set of risk information determined by the RAPID process.

4. Technical Approach/Analytic Methodology:

In order to meet Policy's requirement for results by the end of July 2009, HSSAI plans to use the basic methodology and modeling that was done as part of the RAPID prototype, coupled with the incident chains threat probabilities, scenario frequencies, and consequence calculations from the CTRA and BTRA reports. Two specific changes will be made to the methodology:

- Since PA&E discussions are largely based around FYHSP programs and resource allocation decisions are made at the subprogram level and below, the Deep Dives will conduct risk reduction assessments using FYHSP subprograms where possible, consistent with the RAPID Prototype methodology.
- The RAPID prototype is based on an expected value model. The Deep Dives will investigate incorporating uncertainty into the modeling methodology to account for more realistic representation of threat choice, scenario likelihood, and program effectiveness uncertainties.

HSSAI will provide RMA a more detailed description of the proposed technical approach in the Project Management Plan.

5. Deliverables:

Date:

- | | |
|--|-----------------------------------|
| 1. Project Management Plan | DOA + 15 days (or as agreed upon) |
| 2. Monthly Status Report (briefing format) | DOA+30 days, monthly thereafter |
| 3. Annotated Briefing | 13 July 2009 (See note below) |

The annotated briefing will document the results of the work. It will be delivered to the DHS Task Sponsor (5 copies) and DHS Program Manager/COR (3 copies), with a copy of the transmittal letter to the Contracting Officer. The briefing will be reviewed by the sponsor and returned to HSSAI by July 27, 2009. A follow-on annotated briefing, containing additional details regarding the study background, approach, etc., and reflecting sponsor comments on the 13 July 2009 product, would then be provided to the Sponsor on or before 30 August 2009.

5a. Milestones:

These are established and maintained in the Project Management Plan.

6. Constraints/Assumptions:

- RMA, acting as Primary Stakeholder, will coordinate with the DHS component representatives to provide the relevant information for the RAPID Deep Dives. The Institute's ability to deliver results that meet the sponsor's objectives and have the desired impact is critically dependent on timely access to detailed BTRA/CTRA data and other such information.
- IISSAI may interview and conduct workshops of SMEs to gather knowledge regarding the current state of the art of the technical issues relating to this Task. HSSAI will coordinate and inform RMA of all engagement activities.
- HSSAI may organize meetings/workshops related to the task with federal officials, including but not limited to DIIS officials, on behalf of the Sponsor; however, the sponsor shall approve the agenda and chair any federal intra-agency/inter-agency meetings.
- RMA SME's on the BTRA and CTRA will work with IISSAI to combine existing program mapping data with the BTRA/CTRA event tree to produce the relevant incident chains. The Institute's ability to fully satisfy the sponsor's objectives in this regard may depend on details of the BTRA/CTRA data structure that are not fully known at this time.
- HSSAI recognizes the need for credible methods and processes to be tested and refined as practicable during and after the Deep Dive Task. Within time and resource constraints, IISSAI will make a best effort to ensure appropriate validation of methods and processes, including the use of expert elicitation techniques as appropriate.
- HSSAI recognizes the issue of addressing the uncertainties that surround the assumptions, judgments, and calculations associated with the RAPID Deep Dive and the need to explain the utility and limitations of this method to all users. To the extent practicable as constrained by time and resources, HSSAI will seek to identify and account for such uncertainties.
- HSSAI will provide rooms to support Working Groups and Sub-Groups, to the extent available and practicable.
- IISSAI must notify the DIIS Task Sponsor, the IISSAI COTR, the DIIS S&T Special Assistant for International Policy, and the S&T Security Officer before arrival of visitors from foreign countries.
- HSSAI will implement and manage the technical approach, organizational resources, and management controls to be employed to meet the cost, performance, and schedule requirements throughout Task execution.
- IISSAI will keep Sponsor and Stakeholders apprised of RAPID's process and product development on a continuous basis as appropriate, above and beyond the required deliverables and monthly status reports. Guidance and support will be sought from Sponsor and Stakeholders to keep the quality of work high, remain responsive to needs, and maintain the process flow.
- HSSAI will deliver a monthly program status report as specified in the Prime Contract to the DHS Task Sponsor (3 copies), DHS COTR/Program Manager/Executive Agent (3 copies) containing metrics pertaining to financial, schedule, technical progress, deliverable status, and risk information related to the task.
- Personnel provided by HSSAI will have the skills and technical background necessary to successfully complete the sub-Tasks described in this TEP. As appropriate and necessary to fulfill the requirements of this TEP, HSSAI may recommend and use the services of DHS approved sub-contractors and consultants holding specialized expertise with Task Sponsor approval.

7. Period of Performance: 13 July 2009 through 12 July 2010

8. Distribution:

Distribution and markings are decided by the sponsor and the HSSAI Executive Agent.

9. Cost: (Refer to Page 2 of Task Order Award)

Note: In accordance with the HSSAI contract, five percent of all task funding will go toward supporting the Institute's core research program which will address emergent, crosscutting or integrative issues; strategic concept and capability development; best practices and lessons learned which will not only benefit this task but have benefits across the Department. *For example, upon request and approval, these funds could be used to research and find solutions for long term risk assessment issues, such as appropriate methods for calculating the indirect consequences of catastrophic incidents or effectively presenting the effects of uncertainty.*

Note: Unexpended costs shall be realigned under this task and expended as required under this task. Food at any stage cannot be funded by the contract.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE OF PAGES 1 2
2. AMENDMENT/MODIFICATION NO P00001	3. EFFECTIVE DATE 09/16/2009	4. REQUISITION/PURCHASE REQ NO RSSA-09-00052	5. PROJECT NO. (If applicable)
6. ISSUED BY U.S. Dept. of Homeland Security Office of Procurement Operations S&T Acquisition Branch 245 Murray Lane, SW Building 410 Washington DC 20528	CODE DHS/OPO/S&T/S&T	7. ADMINISTERED BY (If other than Item 6) U.S. Dept. of Homeland Security Office of Procurement Operations S&T Acquisition Branch 245 Murray Lane, SW Building 410 Washington DC 20528	CODE DHS/OPO/S&T/S&T
8. NAME AND ADDRESS OF CONTRACTOR (No. street, county, State and ZIP Code) ANALYTIC SERVICES INC 2900 SOUTH QUINCY STREET SUITE 800 ARLINGTON VA 222062233		(X) 9A. AMENDMENT OF SOLICITATION NO	
CODE 0778157360000 FACILITY CODE		9B DATED (SEE ITEM 11)	
		X 10A. MODIFICATION OF CONTRACT/ORDER NO HSHQDC-09-D-00003 HSHQDC-09-J-00249	
		10B DATED (SEE ITEM 13) 07/09/2009	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required) Net Increase: \$294,380.00
REI9122-000-RA-70-00-00-000-01-00-0000-00-00-00-00-GE-OE-25-37-000000

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF
	D. OTHER (Specify type of modification and authority)
X	FAR 43.103(a)(3)

E. IMPORTANT: Contractor is not, is required to sign this document and return 1 copies to the issuing office

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DUNS Number: 077815736+0000
Division: OAD - HSSAI
PPA: N/A
Thrust: N/A
Program: N/A
Project: HSSAI Task 09-17: NPPD // Risk Assessment Process for Informed Decision-Making (RAPID)
Performer: HSSAI
Appropriation Year: FY09 (REI Funds)
Budget Authority: Annual Funds

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect

15A. NAME AND TITLE OF SIGNER (Type or print) Stephen Shadley, Sr. Contracts Representative	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Albert Dainton
15B. CONTRACTOR/OFFEROR <i>(Signature of person authorized to sign)</i>	16B. UNITED STATES OF AMERICA <i>(Signature of Contracting Officer)</i>
15C. DATE SIGNED 9/18/09	16C. DATE SIGNED 9/18/09

CONTINUATION SHEET

REFERENCE NO OF DOCUMENT BEING CONTINUED
HSHQDC-09-D-00003/HSHQDC-09-J-00249/P00001PAGE OF
2 2NAME OF OFFEROR OR CONTRACTOR
ANALYTIC SERVICES INC

ITEM NO (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
0002	<p>ALC: 70-08-1513 APPS: 7090810</p> <p>Description: The purpose of this modification is to increase funding for the HSSAI Task 09-17: NPPD Risk Assessment Process for Informed Decision-Making (RAPID). The base funding of \$490,728 is increased by \$294,380 to total \$785,108. All work shall be done in accordance with the attached Task Execution Plan (TEP). Delivery: 07/12/2010 Discount Terms: Net 30 Delivery Location Code: S&T MURRAY LANE DHS S&T 245 Murray Lane Building 410 Washington DC 20528</p> <p>FOB: Destination Period of Performance: 07/13/2009 to 07/12/2010</p> <p>Add Item 0002 as follows:</p> <p>HSSAI Task 09-52: NPPD/RMA: Risk Assessment Process for Informed decision-making (RAPID) Deep Dive.</p> <p>Estimated Cost: \$287,200 Fixed Fee: \$7,180</p> <p>Total CPFF: \$294,380</p>				294,380.00

TASK EXECUTION PLAN

TEP No.: 09-17 (Analytic)

Division Director: George Thompson **Division Manager:** Mark Hanson

Division: Risk Management Division (RMD)

Task Title: Risk Assessment Process for Informed Decision-Making (RAPID)
RAPID Deep Dive

Date: 28 July 2009

Version: 3

DHS Sponsor:

Tina Gabbrielli, 202-447-3358, tina.gabbrielli@dhs.gov, Director, Office of Risk Management and Assessment (RMA), NPPD, Department of Homeland Security, 3801 Nebraska Ave, NW, Washington DC 20528

HSSAI Task Lead:

Wallace Langbehn, 703-416-3232, wslp.langbehn@hssi.dhs.gov, Homeland Security Institute, 2900 S Quincy St, #800, Arlington, VA 22206

Additional Stakeholders:

John Whitley, 202-447-5141, john.whitley@dhs.gov, Director, DHS/Program Analysis and Evaluation (PA&E), MGMT/CFO, Department of Homeland Security, 7th & D St. SW, Washington, DC 20528

Alan Cohn, 202-282-9383, alan.cohn@dhs.gov, Deputy Assistant Secretary for Policy, Strategic Plans, Policy Directorate, Department of Homeland Security, 3801 Nebraska Ave, NW, Washington DC 20528

1. Purpose, Requirements and Objectives:

DHS's Office of Risk Management and Assessment (RMA) is the Sponsor for this Task. RMA's purpose is to look at risk from a Departmental perspective while working with each DHS component risk office to assess and evaluate risk. Over the past three years RMA, PA&E, Policy, and S&T have been working to create a strategic-level framework that can be used to assess risk and inform the DHS Planning, Programming, Budgeting, and Performance Evaluation/Execution (PPBE) cycle, which in turn provides the basis for the annual DHS Future Year Homeland Security Plan (FYHSP). One of RMA's initiatives, the Risk Assessment Process for Informed Decision-making (RAPID), is an essential part of RMA's plans.

RAPID is a pioneering effort that has followed a spiral development approach. A Proof of Concept was developed in 2006, and concepts and methodologies were refined in 2007. In 2008, RAPID executed a Prototype to test and demonstrate a solid and credible foundation for moving into the first phase of implementation. For 2009, RAPID will include a more in-depth assessment of chemical and biological terrorism scenarios. Accordingly, the primary purpose of this Task is to provide analytic support for the 2009 Deep Dive efforts for RAPID. Major elements of the RAPID process will be applied, refined as needed, and used to generate results that support DHS Policy and PA&E. Specifi-

cally, the aims of the Deep Dive are to apply the analytic steps and processes in the RAPID Prototype method to create results capable of informing the PPBE IPG.

2. Desired Impact of the RAPID Deep Dive:

As RAPID's methodology matures, it can help ensure that DHS integrated planning guidance, resource allocation plans, and investment decisions are guided in part by risk reduction. The RAPID Deep Dive will help mature RAPID by producing a product that, if further expanded and implemented in future years, can provide credible and usable information to assist DHS decision makers with such questions as:

- What are the greatest anticipated risks across the domestic chemical and biological terrorism areas of the homeland security mission space?
- Where are the best opportunities for DHS programs to reduce risk at reasonable cost for the domestic chemical and biological terrorism areas?
- What are the risks and trade-offs involved in adding or redistributing future DHS funding among programs relating to domestic chemical and biological terrorism?

3. Scope:

This Task consists of the following Sub-Tasks:

- Sub-Task (1): Define Deep Dive Scenarios. HSSAI will assist and provide analytic support to the process of building RAPID Scenarios based on the scenarios used in the BTRA and CTRA reports. The purpose of these Scenarios is to provide information needed to conduct risk analysis as required by the RAPID Risk Method. HSSAI will work with RMA to coordinate the Chemical and Biological scenarios with the components. Threat probability values and consequence estimates will also be derived from the BTRA and CTRA work, as applicable.
 - Sub-Task (2): Define Incident Chains. Based on the scenarios defined in Sub-Task (1), HSSAI will develop the sequencing of scenario steps as "Incident Chains" that depict the principal pre-event activities, event initiation, and post-event activities.
 - Sub-Task (3): Program Mapping. Based on the Deep Dive scenarios in Sub-Task (1) and their representation as Incident Chains in Sub-Task (2), HSSAI will assist and provide support in mapping DHS programs to the scenario activities represented in the Incident Chains. HSSAI will consider programs based on the 2011-2015 FYIISP program list provided by PA&E. HSSAI will characterize programs by their scenario roles, interprogram relationships, and dependencies and validate these characterizations with the DHS components.
 - Sub-Task (4): Estimate DHS Program Risk Reduction Effectiveness. HSSAI will coordinate and support a process by which appropriate Component Program Experts will judge the effectiveness of each of their relevant programs to reduce risk.
 - Sub-Task (5): Risk Modeling and Analysis. Based on the previous experience with the RAPID prototype, HSSAI will refine the RAPID model to include both operational and enabling programs and assess programs' risk reduction effectiveness and Return on Investment (ROI) within the context of the Deep Dive scenarios.
 - Sub-Task (6): Provide Results to Influence Policy IPG Guidance. HSSAI will assist RMA in consolidating the RAPID Deep Dive results to generate information to support the FY11-15 IPG to be published in FY09. HSSAI will draw upon the RAPID Prototype
-

work to analyze the results and to incorporate RAPID into the IPG decision-making process. Throughout this Sub-Task, HSSAI will work closely with the Sponsor to ensure that these representative inputs properly reflect the uncertainties and limitations inherent in the RAPID process.

- Sub-Task (7): Assist with FY11 RAP Guidance. HSSAI will coordinate and support the development of draft guidance to the Resource Allocation Plan. The guidance will provide the context and risk framework for component programs to present, discuss and defend their programmatic requests using the common set of risk information determined by the RAPID process.
- Sub-Task (8): Assist with RAPID threat elicitation. HSSAI will support RMA's efforts to prepare, plan, and conduct the elicitation of threat experts for scenario-related estimates of threat preferences and behaviors. This support may include advising RMA on schedule, timing, sequence, and methods that affect the effective elicitation and delivery of threat information; conducting elicitation sessions; organizing and delivering data sets; and conducting post-elicitation analyses as required by RMA to meet RAPID timelines.

4. Technical Approach/Analytic Methodology:

In order to meet Policy's requirement for results by the end of July 2009, HSSAI plans to use the basic methodology and modeling that was done as part of the RAPID prototype, coupled with the incident chains threat probabilities, scenario frequencies, and consequence calculations from the CTRA and BTRA reports. Two specific changes will be made to the methodology:

- Since PA&E discussions are largely based around FYHSP programs and resource allocation decisions are made at the subprogram level and below, the Deep Dives will conduct risk reduction assessments using FYHSP subprograms where possible, consistent with the RAPID Prototype methodology.
- The RAPID prototype is based on an expected value model. The Deep Dives will investigate incorporating uncertainty into the modeling methodology to account for more realistic representation of threat choice, scenario likelihood, and program effectiveness uncertainties.

HSSAI will provide RMA a more detailed description of the proposed technical approach in the Project Management Plan.

5. Deliverables:

Date:

1. Project Management Plan	DOA + 15 days (or as agreed upon)
2. Monthly Status Report (briefing format)	DOA+30 days, monthly thereafter
3. Annotated Briefing of Mapping Results	31 July 2009 (See note)
4. Annotated Briefing of Analysis Results	(Receipt of Pgm Effectiveness data) + 30 days
5. Task Close-Out Report	DOA + 12 months (End of task)

Note: The annotated briefing of mapping results will document the interim results of the Deep Dive work, emphasizing Sub-Task (3): Program Mapping. Upon receipt of the Program Effectiveness data required to conduct the Deep Dive analysis, and assuming 30 days to complete the analysis tasks, a follow-on annotated briefing containing additional details regarding the study background, approach, analysis results, and reflecting sponsor comments on the 31 July 2009 mapping deliverable, will be provided to the Sponsor on or before 30 September 2009. Both annotated briefings will be delivered to the DHS Task Sponsor (5 copies) and DHS Program Manager/COR (3 copies), with a copy of the transmittal letter to the Contracting Officer.

5a. Milestones:

These are established and maintained in the Project Management Plan.

6. Constraints/Assumptions:

- RMA, acting as Primary Stakeholder, will coordinate with the DHS component representatives to provide the relevant information for the RAPID Deep Dive. The Institute's ability to deliver results that meet the sponsor's objectives and have the desired impact is critically dependent on timely access to detailed BTRA/CTRA data and other such information.
 - HSSAI may interview and conduct workshops of SMEs to gather knowledge regarding the current state of the art of the technical issues relating to this Task. HSSAI will coordinate and inform RMA of all engagement activities.
 - HSSAI may organize meetings/workshops related to the task with federal officials, including but not limited to DHS officials, on behalf of the Sponsor; however, the sponsor shall approve the agenda and chair any federal intra-agency/inter-agency meetings.
 - RMA SME's on the BTRA and CTRA will work with HSSAI to combine existing program mapping data with the BTRA/CTRA event tree to produce the relevant incident chains. The Institute's ability to fully satisfy the sponsor's objectives in this regard may depend on details of the BTRA/CTRA data structure that are not fully known at this time.
 - HSSAI recognizes the need for credible methods and processes to be tested and refined as practicable during and after the Deep Dive Task. Within time and resource constraints, HSSAI will make a best effort to ensure appropriate validation of methods and processes, including the use of expert elicitation techniques as appropriate.
 - HSSAI recognizes the issue of addressing the uncertainties that surround the assumptions, judgments, and calculations associated with the RAPID Deep Dive and the need to explain the utility and limitations of this method to all users. To the extent practicable as constrained by time and resources, HSSAI will seek to identify and account for such uncertainties.
 - HSSAI will provide rooms to support Working Groups and Sub-Groups, to the extent available and practicable.
 - HSSAI must notify the DHS Task Sponsor, the HSSAI COTR, the DHS S&T Special Assistant for International Policy, and the S&T Security Officer before arrival of visitors from foreign countries.
 - HSSAI will implement and manage the technical approach, organizational resources, and management controls to be employed to meet the cost, performance, and schedule requirements throughout Task execution.
 - HSSAI will keep Sponsor and Stakeholders apprised of RAPID's process and product development on a continuous basis as appropriate, above and beyond the required deliverables and monthly status reports. Guidance and support will be sought from Sponsor and Stakeholders to keep the quality of work high, remain responsive to needs, and maintain the process flow.
 - In support of Sub-Task 8, HSSAI may subcontract the preparation and conduct of subject matter expert (SME) elicitations to obtain quantitative judgments for use in RAPID models. HSSAI will assist RMA in preparing for and conducting the meetings but a number of factors beyond HSSAI's control may have a direct effect on the costs and times to conduct the elicitations including, but not limited to, SME availability; availability of classified meeting facilities; and number and duration of the elicitation sessions required by RMA.
-

- HSSAI will deliver a monthly program status report as specified in the Prime Contract to the DHS Task Sponsor (3 copies), DHS COTR/Program Manager/Executive Agent (3 copies) containing metrics pertaining to financial, schedule, technical progress, deliverable status, and risk information related to the task.
- Personnel provided by HSSAI will have the skills and technical background necessary to successfully complete the sub-Tasks described in this TEP. As appropriate and necessary to fulfill the requirements of this TEP, HSSAI may recommend and use the services of DHS approved sub-contractors and consultants holding specialized expertise with Task Sponsor approval.
- In accordance with the HSSAI contract, five percent of all task funds are allocated to the Institute's Core research program, which will address emergent, crosscutting or integrative issues; strategic concept and capability development; and best practices and lessons learned, which will not only benefit this task but have benefits across the Department. For the funding allocated to the Core from this task, the Institute *will be used to research and find solutions for long term risk assessment issues, such as appropriate methods for calculating the indirect consequences of catastrophic incidents or effectively presenting the effects of uncertainty.* If, during execution of this task, an alternative use of these funds is identified, the Institute may pursue that alternative provided that: a) the alternative use is also consistent with the provisions of the HSSAI contract; and b) the alternative is communicated to and coordinated with the Program Manager. If the Program Manager determines that the benefits of the alternative use are less than those associated with the use originally proposed in this TEP, the Program Manager may disallow the alternative.

7. Period of Performance: 07/13/09 – 07/12/10

8. Distribution:

Distribution and markings are decided by the sponsor and the HSSAI Executive Agent.
